REMARKS

Claims 1-27 are pending in this application. Attached hereto is a complete listing of all pending claims, with their current status listed parenthetically. By this Response, claims 1, 5, and 26 have been amended, and are presented with markings to indicate their current amendments. Claim 26 has been amended to correct a grammatical error, not to distinguish it from any cited references. New claims 28-36 have also been added.

Rejection Under 35 U.S.C. §102(b)

In paragraphs 1 and 2 of the Office Action, the Examiner rejects claims 1-27 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 5,889,767 ("Kimura"). As discussed below, Applicant respectfully traverses this rejection.

A.   The Law of Anticipation and Enabling Prior Art References

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. M.P.E.P. §2131. The identical invention must be shown in as complete detail as is contained in the claim. *Id.*

Applicant submits that amended independent claims 1 and 5 have elements that cannot be found, either expressly or inherently, in Kimura. Specifically, amended claim 1 now recites, in part:

> ". . .a master transceiver configured to manage data communications between said first device and said second device <u>by assigning a variable length data slot based on the first device and second device bandwidth requirements.</u>"

Amended claim 5 now recites, in part:

> ". . .a master transceiver configured <u>to</u> manage data communications between said first slave transceiver and said second slave transceiver <u>by assigning a variable length data slot within each of the plurality of TDMA data packets.</u>"

As discussed in the originally-filed specification, support for the amendments of "variable length data slots," and "variable length data slot within each of the plurality of TDMA data packets" can be found at: page 19, lines 24-25; page 20, lines 1-11; page 36, lines 23-25; and page 37, lines 1-14. Variable length data slots are also illustrated in FIGS. 3 and 7.

In contrast, Kimura teaches a communication system that equally divides a prescribed TDMA frame area into at least two sub-areas (Abstract). As illustrated in FIGS. 4A-C, the radio burst signals 401, 402, and 403 are equal in burst length (col. 6, lines 34-35). The TDMA frame shown in FIG. 4D is comprised of fixed-size elements, and:

> "even if the number of bits (data quantity) of a message signal changes, the burst lengths of individual radio burst signals does not change, and accordingly **the overall format composition of a frame does not change**. In other words, even if the transmission speed of a message signal changes, **the message signal can be transmitted by using the same frame all the time**." (col. 6, lines 37-43) [emphasis added]

Thus, in Kimura, the frame composition is not altered, and if the requesting device does not require the entire time slot the remainder is left unoccupied. This is shown in FIGS. 7A-B, where message sub-area 72 is allocated, leaving unoccupied part 703 left in radio burst signal 700. (col. 10, lines 27-30). Therefore, Kimura does not teach variable length data slots, as recited in Applicant's amended independent claims 1 and 5.

Regarding the rejection of independent claim 17, Kimura fails to teach or suggest "ultra wide band base band signals" or "variable pulse repetition frequencies" as recited in the originally-filed claim 17. Claim 17 is directed to ultra-wide band networks, as discussed on page 7, line 4, and in other locations of the originally-filed specification. For example, "data is transmitted via impulses having 100 picosecond risetime and 200 picosecond width, which corresponds to a bandwidth between about 2.5 GHz and 5.0 GHz." (page 13, lines 14-16 of the specification).

That is, the claimed ultra-wide band technology is very different from the conventional telephone communication technology taught by Kimura. That is, Kimura teaches analog telephone communications (col. 9, lines 5-6) and ISDN telephone communications (col. 9, line 62). This type of conventional telephone communication employs a continuous, sinusoidal waveform with a bandwidth of about 20 kilohertz.

In contrast, the ultra wide base band signals as recited in claim 17 are transmitted without modulation onto a sinusoidal waveform and have a bandwidth several factors greater than 20 kilohertz.

Therefore, Applicant respectfully submits that the Section 102 rejection of claims 1-27 has been traversed. Because claims 2-4, 6-10, 12-16 and 18-27 depend from claims 1, 5, 11, and 17, respectively, it is respectfully submitted that the rejection of claims 2-4, 6-10, 12-16 and 18-27 has been traversed by virtue of their dependency from either claim 1, 5, 11, and 17. M.P.E.P. § 2143.03.

Rejection Under 35 U.S.C. §102(e)

In paragraphs 3 and 4 of the Office Action, the Examiner rejects claims 11-16 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent 6,161,138 ("Gross"). As discussed below, Applicant respectfully traverses this rejection.

Originally-filed independent claim 11 recites, in part:

> ". . .a framing control unit housed by said master transceiver, said framing control unit configured to generate and maintain a plurality of TDMA frames, each of said plurality of TDMA frames having a plurality of slots, each of said plurality of slots having a start of frame slot configured to identify each of said plurality of TDMA frames to at least one slave transceiver."

A "start of frame slot" is neither taught nor suggested by Gross. As disclosed in Applicant's specification, "[t]he Start of Frame slot includes a synchronization slot 58 and a timestamp slot 59." (page 18, lines 11-12). One feature of the timestamp slot is that "[t]he timestamp slot 59 permits the master 12a **to dynamically reassign the data slot time and length parameters.**" (page 19, lines 9-11, emphasis added). Additionally, "[t]his arrangement allows the master device 12a to dynamically manage the usage of the data slot section 56 to optimize the bandwidth capabilities of the transport medium of the network and the devices of the network. Thus, the master device **12a may allocate a wider data slot** to a slave device, which can utilize a larger bandwidth. Conversely, the master device **12a may also allocate a narrower data slot** to a slave device which has more limited bandwidth capabilities." (page 20, lines 3-9).

In contrast, Gross teaches a "beat packet" that "provides the timing or beat of the network that all stations are synchronized with. In addition, the beat packet "contains the permission list (reservation list) identifying the stations that will transmit, and the order that they will transmit during the frame." (Gross Abstract ¶2). Thus, the beat packet, as illustrated in Gross, FIG. 3, and described in col. 8, lines 45-60, does not perform the functions as recited in claim 11.

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Consequently, Applicant respectfully submits that the rejection of claim 11 has been traversed. Because claims 12-16 depend from claim 11, it is respectfully submitted that the rejection of claims 12-16 has been traversed by virtue of their dependency from claim 11. M.P.E.P. § 2143.03.

Change of Attorney Address

Accompanying this Response to Office Action is PTO form SB/122, Change of Correspondence Address. Please change the correspondence address to:

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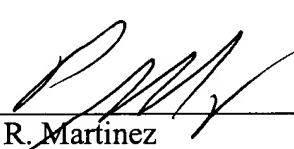
Conclusion

Applicant believes that this Response has addressed all items in the Office Action and now places the application in condition for allowance. Accordingly, favorable reconsideration and allowance of claims 1-36 at an early date is solicited. Should any issues remain unresolved, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

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Date

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